ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM

INDIVIDUAL PERMIT – FINAL

Permit Number: AK0053660

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Wastewater Discharge Authorization Program
555 Cordova Street
Anchorage, AK 99501

In compliance with the provisions of the Clean Water Act (CWA), 33 U.S.C. §1251 *et seq.*, as amended by the Water Quality Act of 1987, P.L. 100-4, this permit is issued under provisions of Alaska Statutes (AS) 46.03; the Alaska Administrative Code (AAC) as amended; and other applicable State laws and regulations. The

EXXON MOBIL CORPORATION

is authorized to discharge from the Point Thomson Central Pad – Construction Camp #1 facility at Eastern North Slope, Alaska; Latitude 70.1713, Longitude -146.2568 at the following approximate locations (see Figure 1 in the fact sheet):

Outfall	Receiving Water or Body	Latitude	Longitude
001A	Lion Bay of the Beaufort Sea	70.1743	-146.2588
002A	Lion Bay of the Beaufort Sea	70.1727	-146.2517
003A	Unnamed Freshwater Lake	70.1680	-146.2573
001B	Lion Bay of the Beaufort Sea	70.1743	-146.2588
002B	Lion Bay of the Beaufort Sea	70.1727	-146.2517
003B	Unnamed Freshwater Lake	70.1680	-146.2573

In accordance with the discharge point(s) effluent limitations, monitoring requirements, and other conditions set forth herein:

This permit and authorization shall become effective November 1, 2012

This permit and the authorization to discharge shall expire at midnight, October 31, 2017

The permittee shall reapply for a permit reissuance on or before May 5, 2017, 180 days before the expiration of this permit if the permittee intends to continue operations and discharge(s) at the facility beyond the term of this permit.

The permittee shall post or maintain a copy of this permit to discharge at the facility and make it available to the public, employees, and subcontractors at the facility.

Wade Strickland
Signature

September 28, 2012
Date

Wade Strickland
Printed Name

Program Manager
Title

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SCHEDULE OF SUBMISSIONS

The Schedule of Submissions summarizes some of the required submissions and activities the permittee must complete and/or submit to the Alaska Department of Environmental Conservation (DEC) during the term of this permit. The permittee is responsible for all submissions and activities even if they are not summarized below.

Table 1: Schedule of Submissions

Permit Part	Submittal or Completion	Frequency	Due Date	Submit to[a]
Appendix A, 3.2	Discharge Monitoring Report (DMR)	Monthly	Must be postmarked on or before the 15th of each month.	Compliance
2.1	Written notification that the Quality Assurance Project Plan (QAPP) has been developed and implemented	1/permit cycle	Within 120 days after the effective date of the final permit.	Permitting
2.2	Written notification that the Best Management Practices (BMP) Plan has been developed and implemented	1/permit cycle	Within 180 days after the effective day of the final permit	Permitting
2.3	Written notification that the Operations and Maintenance Plan has been developed and implemented	1/permit cycle	Within 180 days after the effective day of the final permit	Permitting
Appendix A, 1.3	Application for Permit Reissuance	1/permit cycle	180 days before expiration of the final permit	Permitting
Appendix A, 2.4	Reports of compliance or noncompliance with a Compliance Schedule	As required	The Report must be submitted no later than 14 days following each schedule date	Compliance
Appendix A, 3.4	Oral notification of noncompliance	As Necessary	Within 24 hours from the time the permittee becomes aware of the circumstances of noncompliance	Compliance
Appendix A, 3.4	Written documentation of noncompliance	As Necessary	Within 5 days after the permittee becomes aware of the circumstances	Compliance

a) See Appendix A 1.1 for addresses

1.0 LIMITATIONS AND MONITORING REQUIREMENTS

1.1 Discharge Authorization

During the effective period of this permit, the permittee is authorized to discharge pollutants from outfall 001A, 002A, 003A, 001B, 002B, 003B specified herein to either Lion Bay of the Beaufort Sea or an unnamed freshwater lake to the south of the facility, within the limits and subject to conditions set forth herein. This permit authorizes discharge of only those pollutants resulting from facility processes, waste streams, and operations clearly identified in the permit application process.

1.2 Effluent Limits and Monitoring

The permittee must limit and monitor discharges from whichever outfall specified in Part 1.2 that they are discharging from as specified in the subsequent tables: Table 2, Table 3, Table 4 or Table 5. All values represent maximum effluent limits, unless otherwise indicated. The permittee must comply with effluent limits in the tables at all times unless otherwise indicated, regardless of monitoring frequency or reporting required by other provisions of this permit.

Table 2: Outfall 001A and 002A: Discharge from the MBR to Lion Bay - Effluent Limits and Monitoring Requirements

	Effluent Limits					Monitoring Requirements		
Parameter	**Minimum**	**Monthly Average**	**Weekly Average**	**Daily Maximum**	**Units**	**Sample Location**	**Sample Frequency**	**Sample Type**
Total Discharge Flow	N/A	0.0187 [a]	N/A	.033	MGD	Effluent	Continuous	Recorded
BOD_5	N/A	30	45	60	mg/L	Effluent	1/Month	Grab
	N/A	4.7	7.0	9.4	(pounds per day) lb/day			
BOD_5	N/A	Report	N/A	N/A	mg/L	Influent	1/Month	Grab
BOD_5 Percent Removal	85	N/A	N/A	N/A	Percent	Influent/Effluent	1/Month	Grab
TSS	N/A	30	45	60	mg/L	Effluent	1/Month	Grab
	N/A	4.7	7.0	9.4	lb/day			
TSS	N/A	Report	N/A	N/A	mg/L	Influent	1/Month	Grab
TSS Percent Removal	N/A	85 (minimum)	N/A	N/A	Percent	Influent/Effluent	1/Month	Grab
Fecal Coliform Bacteria	N/A	14 [b]	N/A	43 [b]	Most Probable Number (MPN)	Effluent	1/Week	Grab
Enterococci	N/A	N/A	N/A	Report	#/100 mL	Effluent	1/Month [c]	Grab
pH	6.5	N/A	N/A	8.5	Standard Units (SU)	Effluent	3/Week	Grab
Dissolved Oxygen	6.0	N/A	N/A	17	mg/L	Effluent	3/Week	Grab
Total Residual Chlorinel [d]	N/A	7.5	N/A	13	µg/L	Effluent	1/Month [e]	Grab

Notes:

a. The wastewater discharge volume shall not exceed the maximum hydraulic design flow rate approved in the Final Approval to Operate issued by the Department. Final Approval to Operate means that the Department has reviewed and approved the wastewater treatment works engineered plans submitted to the Department in accordance with 18 AAC 72.210 through 18 AAC 72.285 or as amended.

b. In a 30-day period, the median most probable number (MPN) may not exceed 14 FC/100 mL and not more than 10 percent of samples may exceed 43 FC/100 mL.

c. Enterococci bacteria monitoring is required May – September for marine discharges only.

d. Effluent limits for Total Residual Chlorine (TRC) are not quantifiable using EPA-approved analytical methods. DEC will use the minimum detection limit of 0.1 mg/L as the compliance level for this parameter.

e. During months when membrane cleaning takes place, TRC monitoring must be conducted coincident with cleaning activities.

Table 3: Outfall 003A: Discharge from MBR to Unnamed Lake - Effluent Limits and Monitoring Requirements

	Effluent Limits					Monitoring Requirements		
Parameter	**Minimum**	**Monthly Average**	**Weekly Average**	**Daily Maximum**	**Units**	**Sample Location**	**Sample Frequency**	**Sample Type**
Total Discharge Flow	N/A	0.0187 [a]	N/A	.033	MGD	Effluent	Continuous	Recorded
BOD_5	N/A	30	45	60	mg/L	Effluent	1/Month	Grab
	N/A	4.7	7.0	9.4	lb/day			
BOD_5	N/A	Report	N/A	N/A	mg/L	Influent	1/Month	Grab
BOD_5 Percent Removal	N/A	85	N/A	N/A	Percent	Influent/Effluent	1/Month	Grab
TSS	N/A	30	45	60	mg/L	Effluent	1/Month	Grab
	N/A	4.7	7.0	9.4	lb/day			
TSS	N/A	Report	N/A	N/A	mg/L	Influent	1/Month	Grab
TSS Percent Removal	85	N/A	N/A	N/A	Percent	Influent/Effluent	1/Month	Grab
Fecal Coliform Bacteria	N/A	20 [b]	N/A	40 [b]	MPN	Effluent	1/Week	Grab
pH	6.5	N/A	N/A	8.5	SU	Effluent	3/Week	Grab
Dissolved Oxygen	7.0	N/A	N/A	17	mg/L	Effluent	3/Week	Grab
Total Residual Chlorine [c]	N/A	11	N/A	19	µg/L	Effluent	1/Month [d]	Recorded

Notes:

a. The wastewater discharge volume shall not exceed the maximum hydraulic design flow rate approved in the Final Approval to Operate issued by the Department. Final Approval to Operate means that the Department has reviewed and approved the wastewater treatment works engineered plans submitted to the Department in accordance with 18 AAC 72.210 through 18 AAC 72.285 or as amended.

b. In a 30-day period, the geometric mean may not exceed 20 FC/100 mL and not more than 10 percent of samples may exceed 40 FC/100 mL.

c. Effluent limits for TRC are not quantifiable using EPA-approved analytical methods. DEC will use the minimum detection limit of 0.1 mg/L as the compliance level for this parameter.

d. During months when membrane cleaning takes place, TRC monitoring must be conducted coincident with cleaning activities.

Table 4: Outfall 001B and 002B: Discharge from Backwash to Lion Bay Effluent Limits - and Monitoring Requirements

	Effluent Limits					Monitoring Requirements		
Parameter	**Daily Minimum**	**Monthly Average**	**Weekly Average**	**Daily Maximum**	**Units**	**Sample Location**	**Sample Frequency**	**Sample Type**
Total Discharge Flow	N/A	Report	N/A	Report	MGD	Effluent	Continuous	Recorded
TSS	N/A	30	N/A	60	mg/L	Effluent	1/Month	Grab
pH	6.5	N/A	N/A	8.5	SU	Effluent	1/Month	Grab
Total Residual Chlorine [a]	N/A	7.5	N/A	N/A	µg/L	Effluent	1/Month	Recorded

Notes:

a. Chlorine monitoring is only required to occur if chlorine is introduced to the system. The effluent limit for TRC is not quantifiable using EPA-approved analytical methods. Therefore, DEC will use the minimum detection limit of 0.1 mg/L as the compliance level for this parameter, if needed.

Table 5: Outfall 003B: Discharge from Backwash to Unnamed Lake - Effluent Limits and Monitoring Requirements

	Effluent Limits					Monitoring Requirements		
Parameter	**Daily Minimum**	**Monthly Average**	**Weekly Average**	**Daily Maximum**	**Units**	**Sample Location**	**Sample Frequency**	**Sample Type**
Total Discharge Flow	N/A	Report	N/A	Report	MGD	Effluent	Continuous	Recorded
TSS	N/A	30	N/A	60	mg/L	Effluent	1/Month	Grab
pH	6.5	N/A	N/A	8.5	SU	Effluent	1/Month	Grab
Total Dissolved Solids (TDS)	N/A	N/A	N/A	500	mg/L	Effluent	1/quarter	Grab
Total Residual Chlorine [a]	N/A	11	N/A	N/A	µg/L	Effluent	1/Month	Recorded

Notes:

a. Chlorine monitoring is only required to occur if chlorine is introduced to the system. The effluent limit for TRC is not quantifiable using EPA-approved analytical methods. Therefore, DEC will use the minimum detection limit of 0.1 mg/L as the compliance level for this parameter, if needed.

1.2.1 Discharge shall not cause contamination of surface or ground waters, and shall not cause or contribute to a violation of the Alaska Water Quality Standards (18 AAC 70), except if excursions are authorized in accordance with applicable provisions in 18 AAC 70.200 – 70.270 (e.g. variance, mixing zone).

1.2.2 The pH of the treated discharge must not be less than 6.5 SU nor greater than 8.5 SU.

1.2.3 The permittee must collect effluent samples from the effluent stream after the last treatment unit before discharge into receiving waters.

1.2.4 For all effluent monitoring, the permittee must use a test method that can achieve a method detection limit (MDL) less than the effluent limit.

1.2.5 For purposes of reporting on the discharge monitoring report (DMR) for a single sample, if a value is less than the MDL, the permittee must report "less than numeric value of MDL" and if a value is less than a minimum level (ML), the permittee must report "less than numeric value of ML."

1.2.6 For purposes of calculating a monthly average, zero (0) may be assigned for a value less than the MDL, and the numeric value of MDL may be assigned for a value between the MDL and the ML. If the average value is less than the MDL, the permittee must report "less than numeric value of MDL" and if the average value is less than the ML, the permittee must report "less than numeric value of ML." If a value is equal to or greater than the ML, the permittee must report and use the actual value. The resulting average value must be compared to the compliance level, ML, in assessing compliance.

1.2.7 Removal Requirements for BOD_5 and TSS: Monthly average effluent concentration must not exceed 15 percent of the monthly average influent concentration. Percent removal of BOD_5 and TSS must be reported on the DMR. For each parameter, the monthly average percent removal must be calculated from the arithmetic mean of the influent values and the arithmetic mean of effluent values for that month. Influent and effluent samples must be taken over approximately the same period.

1.3 Additional Monitoring

Table 6 provides the parameters that must be monitored for permit reissuance. The monitoring frequency for all parameters listed in Table 6 is semi-annual during the life for the permit with one

sample collected between June 1 and September 1 and one sample collected between October 1 and May 1. Note samples routinely monitored and reported on monthly DMR forms may be used to complete the monitoring requirements outlined in Table below, as appropriate.

Table 6: Additional Monitoring to Support Future Applications for Reissuance

Parameter	MBR Discharge	Nanofilter Discharge	Sample if Discharge is to Marine Water	Sample if Discharge is to Fresh Water	Units	Sample Type
Fecal Coliform Bacteria	DMR	Yes	Yes	Yes	FC#/100 mL	Grab

Parameter	MBR Discharge	Nanofilter Discharge	Sample if Discharge is to Marine Water	Sample if Discharge is to Fresh Water	Units	Sample Type
Enterococci	DMR	Yes	Yes	Yes	#/100 ML	Grab
TDS	Yes	DMR	No	Yes	mg/L	Grab
Turbidity	No	Yes	Yes	Yes	NTU	Grab
Hardness as Calcium Carbonate ($CaCO_3$)	Yes	Yes	No	Yes	mg/L as $CaCO_3$	Grab
Alkalinity as $CaCO_3$	Yes	Yes	Yes	Yes	mg/L as $CaCO_3$	Grab
D.O.	DMR	Yes	Yes	Yes	mg/L	Grab
Temperature	Yes	Yes	Yes	Yes	°C	Grab
pH [a]	DMR	DMR	Yes	Yes	SU	Grab
Salinity [a]	Yes	No	Yes	No	parts per thousand (ppt)	Grab
Copper [b]	Yes	Yes	Yes	Yes	µg/L	Grab
Lead [b]	Yes	Yes	Yes	Yes	µg/L	Grab
Zinc [b]	Yes	Yes	Yes	Yes	µg/L	Grab
Iron [b]	Yes	Yes	Yes	Yes	µg/L	Grab
Manganese [b]	No	Yes	Yes	Yes	µg/L	Grab
Mercury [b]	Yes	Yes	Yes	Yes	µg/L	Grab
Arsenic [b]	Yes	Yes	Yes	Yes	µg/L	Grab
Total Chloride	Yes	Yes	No	Yes	mg/L	Grab
Sulfates	Yes	Yes	No	Yes	mg/L	Grab

Notes:

a. Temperature and pH are required to be measured concurrently with salinity samples.

b. Metals shall be analyzed and reported as total recoverable.

1.4 Mixing Zone

In accordance with state regulations at 18 AAC 70.240, as amended through June 23, 2003, DEC may authorize a mixing zone. The applicant did not request mixing zone authorization; therefore, DEC did not authorize a mixing zone as part of this permitting action.

2.0 SPECIAL CONDITIONS

2.1 Quality Assurance Project Plan

2.1.1 The permittee must develop a quality assurance project plan (QAPP) for all monitoring required by this permit. The permittee must submit notification to the Department that the QAPP has been developed and implemented within 120 days of the effective date of this permit. Any existing QAPP may be modified under this Part.

2.1.2 The QAPP must be designed to assist in planning for the collection and analysis of effluent samples in support of the permit and to help explain data anomalies whenever they occur.

2.1.3 The permittee must develop a facility-specific QAPP.

2.1.4 Throughout all sample collection and analysis activities, the permittee must use DEC-approved QA/QC and chain-of-custody procedures, as described in the *Requirements for Quality Assurance Project Plans* (EPA/QA/R-5) and *Guidance for Quality Assurance Project Plans* (EPA/QA/G-5). The QAPP must be prepared in the format specified in these documents.

2.1.5 At a minimum, a QAPP must include:

2.1.5.1 Details on number of samples, type of sample containers, preservation of samples, holding times, analytical methods, analytical detection and quantitation limits for each target compound, type and number of quality assurance field samples, precision and accuracy requirements, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements;

2.1.5.2 Maps indicating the location of each sampling point;

2.1.5.3 Qualification and training of personnel; and

2.1.5.4 Name, address, and telephone number of all laboratories used by or proposed to be used by the permittee.

2.1.6 The permittee must amend the QAPP whenever sample collection, sample analysis, or other procedure addressed by the QAPP is modified.

2.1.7 Copies of the QAPP must be kept on site and made available to DEC upon request.

2.2 Best Management Practices Plan

2.2.1 Purpose. Through implementation of the best management practices (BMP) Plan the permittee must prevent or minimize the generation and the potential for release of pollutants from the facility to the lands and waters of the U.S. through normal and ancillary activities.

2.2.2 Development and Implementation Schedule. The permittee must develop and implement a BMP Plan which achieves the objectives and the specific requirements listed below. The permittee must develop and implement provisions of the plan as conditions of this permit within 180 days of the effective date of this permit.

2.2.3 Objectives. The permittee must develop and amend the BMP Plan consistent with the following objectives for the control of pollutants.

2.2.3.1 The number and quantity of pollutants and the toxicity of effluent generated, discharged, or potentially discharged at the facility must be minimized by the permittee to the extent feasible by managing each waste stream in the most appropriate manner.

2.2.3.2 Under the BMP Plan and especially within any standard operating procedures in the BMP Plan, the permittee must ensure proper operation and maintenance of water management and wastewater treatment systems. BMP Plan elements must be developed in accordance with good engineering practices.

2.2.3.3 Each facility component or system must be examined for its waste minimization opportunities and its potential for causing a release of significant amounts of pollutants to lands and waters of the U.S. due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc. The examination must include all normal operations and ancillary activities including material storage areas, storm water, in-plant transfer, material handling and process handling areas, loading or unloading operations, spillage or leaks, sludge and waste disposal, or drainage from raw material storage.

2.2.4 Elements of the BMP Plan. The BMP Plan must be consistent with the objectives above and the general guidance contained in *Guidance Manual for Developing Best Management Practices* (EPA 833-B-93-004, October 1993) and *Storm Water Management for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices* (EPA 832-R-92-006) or any subsequent revision to these guidance documents.

2.2.4.1 Plan Components. The BMP Plan must include, at a minimum, the following items:

2.2.4.1.1 Statement of BMP Policy. The BMP Plan must include a statement of management commitment to provide the necessary financial, staff, equipment, and training resources to develop and implement the BMP Plan on a continuing basis.

2.2.4.1.2 The BMP Plan must establish a BMP Committee responsible for developing, implementing, and maintaining the BMP Plan. Specify the structure, functions, and procedures of the BMP Committee.

2.2.4.1.3 Description of potential pollutant sources.

2.2.4.1.4 Risk identification and assessment.

2.2.4.1.5 Standard operating procedures to achieve the above objectives and specific BMPs (see below).

2.2.4.1.6 Reporting of BMP incidents. The reports must include a description of the circumstances leading to the incident, corrective actions taken and recommended changes to operating and maintenance practices to prevent recurrence.

2.2.4.1.7 Materials compatibility.

2.2.4.1.8 Good housekeeping.

2.2.4.1.9 Inspections.

2.2.4.1.10 Preventative maintenance and repair.

2.2.4.1.11 Security.

2.2.4.1.12 Employee training.

2.2.4.1.13 Record keeping and reporting.

2.2.4.1.14 Prior evaluation of any planned modifications to the facility to ensure that the requirements of the BMP plan are considered as part of the modifications.

2.2.4.1.15 Final constructed site plans, drawings, and maps (including detailed storm water outfall/culvert configurations).

2.2.4.2 Specific Best Management Practices. The BMP Plan must establish specific BMPs or other measures to achieve the objectives under Part 2.2 which ensure that the following specific requirements are met:

2.2.4.2.1 The permittee must ensure that proper neutralization, solids settling, and/or erosion control measures are put in place.

2.2.4.2.2 Solids, sludge, or other pollutants removed in the course of treatment or control of water and wastewaters must be disposed of in a manner to prevent any pollutant from such materials from entering waters of the U.S.

2.2.4.2.3 Ensure proper management of solid and hazardous waste in accordance with regulations promulgated under the Resource Conservation and Recovery Act (RCRA). Management practices required under RCRA regulations must be referenced in the BMP Plan.

2.2.5 Review and Certification. The BMP must be reviewed and certified as follows:

2.2.5.1 Annual review by the plant manager and BMP Committee.

2.2.5.2 Certified statement the above reviews were completed and the BMP Plan fulfills the requirements set forth in this permit. The statement must be certified by the dated signatures of each BMP Committee member and kept on file with the BMP Plan and made available on request to DEC.

2.2.6 Documentation. The permittee must maintain a copy of the BMP at the facility and make it available to DEC or an authorized representative upon request.

2.2.7 BMP Plan Modification

2.2.7.1 The permittee must amend the BMP Plan whenever a change in the facility or in the operation of the facility materially increases the generation of pollutants or their release or potential release to receiving waters.

2.2.7.2 The permittee must amend the BMP Plan whenever the plan is found to be ineffective in achieving the general objective of preventing and minimizing the generation and the potential for the release of pollutants from the facility to waters of the U.S.

2.2.7.3 Any changes to the BMP Plan must be consistent with the objectives and specific requirements listed above.

2.3 Operation and Maintenance Plan

In addition to requirements specified in Appendix A, Part 1.6 of this permit (Proper Operation and Maintenance), by 180 days after the effective date of this permit, the permittee shall develop and implement an operation and maintenance plan for the wastewater treatment facility. The plan shall be retained on site and made available on request to DEC.

2.4 Identification Sign(s)

The permittee shall post a sign or signs on the shoreline adjacent to the discharge point that indicate the name and contact number for the facility, the permit and authorization number and the type of discharge (e.g. treated domestic and industrial wastewater).

2.5 Removed Substances

Collected screenings, grit, solids, scum, and other facility residuals, or other pollutants removed in the course of treatment or control of water and wastewaters shall be disposed of in a Department-approved manner and method in accordance with 18 AAC 60, such as to prevent any pollution from such materials from entering navigable waters.

2.6 Air and Land Releases

The permittee must not place, deposit, or allow to be placed or deposited on the premises, any material which may produce, cause or contribute to the spread of disease, create a safety hazard or in any way endanger the health of the public.